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TEXAS AGRICULTURAL EXPERIMENT STATION
AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS
W. B. BIZZELL, President

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DIVISION OF AGRONOMY

CORN VARIETY EXPERIMENTS SUBSTATION NO. 3, ANGLETON, TEXAS

IMPERIAL BUREAU OF MYCOLOGY
6 JUL 1921

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†As of February 15, 1921.
*In cooperation with the School of Veterinary Medicine, A. & M. College of Texas
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BULLETIN NO. 276. FEBRUARY, 1921.

CORN VARIETY EXPERIMENTS, SUBSTATION NO. 3, ANGLETON, TEXAS

BY E. B. REYNOLDS, AGRONOMIST*

Substation No. 3, of the Texas Agricultural Experiment Station, is located in the Gulf Coastal Plains of Texas, at Angleton, in Brazoria County, approximately forty-four miles south of Houston and thirty-eight miles southwest of Galveston. The nearest point on the Gulf of Mexico is about eighteen miles distant.

The topography of the region is prevailingly flat with poor drainage. The experiment fields of the substation farm are about 22.5 feet above sea-level. The soil is a black clay with a gray or dark clay subsoil classed by the Bureau of Soils, U. S. Department of Agriculture, as Victoria Clay. Chemical analysis shows this soil to be somewhat deficient in phosphorous, but it contains fairly large amounts of potash and lime.

The rainfall varies widely from year to year; for example, in 1917 the precipitation was 22.74 inches, while in 1919 it was 66.79 inches. The average annual rainfall for the seven-year period 1914-1920, inclusive, is 45.57 inches. The rainfall by months for the above period is given in an appendix at the back of this bulletin.

Substation No. 3 is one of the thirteen substations in Texas. Many of the experiments with corn which are conducted here are part of a broad investigation of corn and corn production that is being conducted at several of the substations.

Publications reporting other experiments conducted with corn at Substation No. 3, are:

Bulletin No. 197—Progress Report of Substation No. 3, Angleton, Texas, 1909-1914.

Bulletin No. 229—Experiments at Substation No. 3, Angleton, Texas, 1909-1916.

Bulletin No. 230—Spacing of Rows in Corn and Its Effect Upon Grain Yield. (Exhausted.)

The present bulletin reports the results secured in variety tests of corn conducted at Substation No. 3, Angleton, Texas, during the years 1913-1920, inclusive. The experiments cover a period of eight years, but yield data have been secured for only seven crops; in 1915 the tests were destroyed by a tropical hurricane on August 16 and 17.

The yields of only a few of the high-yielding varieties are given in this report. A large number of varieties have been tested, but the number has varied from year to year. Low-yielding or otherwise undesirable varieties have been discarded as results warranted.

*Superintendent of Substation No. 3 from August, 1918, to November, 1920. Credit is due Mr. N. E. Winters, who was Superintendent from 1913 to 1918.

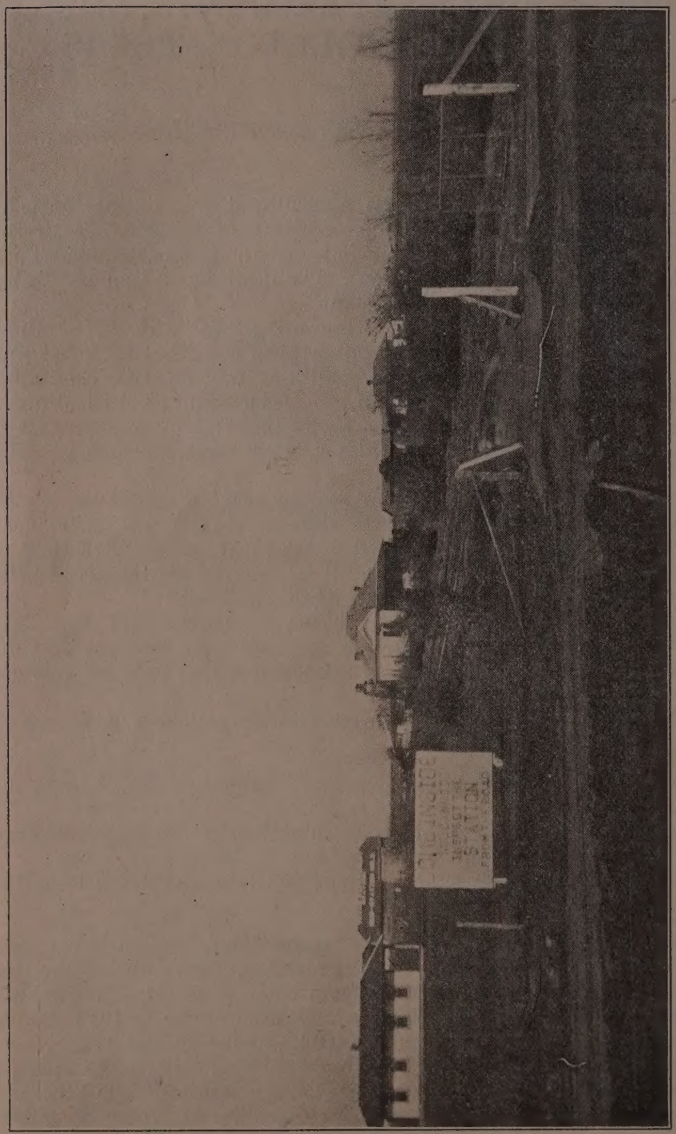

Figure 1. General View of Farmstead, Substation No. 3, Angleton, Texas.

METHOD OF CONDUCTING THE VARIETY TEST

Corn in the variety tests has always been planted in the same manner for all varieties in any given year. The rows have been three feet apart every year. In 1913, 1914, 1917, and 1918 the rate of planting was one stalk every three feet in the row, or 4840 stalks to the acre. In 1916, 1919, and 1920 the rate of planting was one stalk every two feet in the row, or 7260 stalks to the acre. Sufficient cultivation was given to keep down weeds and grass. Fertilizers were not used in these tests, except in 1917 when a blanket application of 171 pounds of acid phosphate to the acre was applied to all varieties.

EXPERIMENT DATA

Table 1 contains a list of eleven of the highest-yielding varieties of corn tested at Substation No. 3 during the years 1913 to 1920. The variety test included 36 varieties in 1913; 48 in 1914; 37 in 1916; 42 in 1917; 55 in 1918; 11 in 1919, and 11 in 1920. Of the eleven varieties in the table, only five were included in the test during each of the seven years. Fentress Strawberry, Florida Flint, Ferguson Yellow Dent, and Creole each were not included one year. Hastings' Prolific and Tuxpan were not included in two of the seven years.

Table 1.—Eleven of the best-yielding varieties in the variety test of corn, 1913-1920, inclusive.

Variety name.	Acre yield, bushels shelled corn.							
	1913	1914	1916	1917	1918	1919	1920	Average
Fentress Strawberry	27.94	26.91	19.63	35.90	37.54	.....	53.31	33.53
Hastings' Prolific	32.25	.....	13.18	.....	23.49	42.98	46.27	31.63
Ferguson Yellow Dent	.....	23.10	23.10	31.05	23.76	35.77	52.33	31.51
Thomas	28.89	25.88	23.63	28.19	29.43	37.61	44.72	31.19
Chisholm	30.26	22.05	14.01	30.84	26.46	33.10	50.44	29.59
Surcropper	28.09	16.61	21.02	32.17	32.14	28.05	44.65	28.96
Virginia White Dent	27.55	21.73	22.23	27.18	13.50	26.66	55.88	27.81
Tuxpan	16.86	.....	.....	22.25	27.54	28.65	42.74	27.60
Cocke's Prolific	27.66	18.20	10.10	27.90	26.46	30.34	45.30	26.56
Florida Flint	21.09	15.87	9.16	.....	18.09	34.73	42.86	23.63
Creole	19.52	15.11	21.34	25.38	11.34	37.15	.....	21.64

The varieties in Table 1 are arranged in order of average yield to the acre. These results show clearly that Fentress Strawberry, Hastings' Prolific, Ferguson Yellow Dent, Thomas, Chisholm, Surcropper, Virginia White Dent, and Tuxpan have been the best-yielding varieties.

VARIETY-DATE TEST

The data presented in the variety test of corn gave an opportunity to enlarge the scope of the experiment by using only the best varieties. In 1918 a more comprehensive test was begun for the purpose of testing the varieties in a more exhaustive manner and of finding a date of planting that would produce the best yields for each variety. The test was planned so as to have three dates of planting, early, medium, and late. The early planting was to be made as early as conditions would permit, which in general would be about the first of March; the second, or medium, planting, two weeks later; and the late planting two weeks later than the medium planting. These three dates of planting are well within the usual planting season of corn in this section of Texas.

Corn in this test has been planted in rows three feet apart, with one stalk every two feet in the row, or 7260 stalks to the acre. The test has been conducted for a period of three years, 1918, 1919, and 1920.

The results of each year are given in separate tables to show the yields of the different varieties at each date of planting, and the average yield of each variety for the three dates of planting.

Table 2 gives the results secured in 1918. This table shows all the varieties that were included in the test, the yield of the varieties at each date of seeding, and the average yield of each variety for the three plantings.

Figure 2. Variety Test of Corn at Substation No. 3.

Table 2.—Acre yield in bushels, variety-date test of corn in 1918.

Variety Name	Early Planting	Medium Planting	Late Planting	Average
Surcropper	30.72	29.79	21.87	27.46
Chisholm	27.27	19.04	14.86	20.39
Ferguson Yellow Dent	26.23	12.74	14.18	17.71
Thomas	18.25	9.58	14.33	14.05
Tuxpan	14.19	13.87	12.59	13.55
Hastings' Prolific	8.87	8.18	14.76	10.60
St. Charles White	19.35	1.65	8.95	9.98
Clemens Yellow	6.47	9.58	12.90	9.65
Florida Flint	5.72	6.92	15.29	9.31
Creole	12.04	6.01	8.52	8.85
Cocke's Prolific	.....	5.41	11.40	8.40
Average	16.91	11.16	13.60	.....

For each of the three dates of seeding in 1918 Surcropper produced the largest yield, while Chisholm produced the second largest yield in the early and medium plantings, but it did not maintain this yield in the late planting. Surcropper produced the highest average yield in

1918, followed in order of yield by Chisholm, Ferguson Yellow Dent, Thomas, and Tuxpan. Hastings' Prolific, St. Charles White, Clemens Yellow, Florida Flint, Creole, and Cocke's Prolific, produced relatively low yields as compared to the other varieties, which result was probably due to the dry season.

Table 3 gives the yields of the three plantings and the average yields of each variety for the three dates of planting in 1919. Hastings' Prolific made the highest yield in the early planting; next to the highest yield in the second planting, and the highest average yield. Tuxpan maintained its yield at all dates of seeding better than the other varieties, and ranked next to Hastings' Prolific in average yield. Florida Flint, Creole, and Thomas follow in order of average yield.

Table 3.—Acre yield in bushels, variety-date test of corn in 1919.

Variety Name	Early Planting	Medium Planting	Late Planting	Average
Hastings' Prolific	42.98	33.44	21.96	32.79
Tuxpan	28.65	32.24	27.33	29.40
Florida Flint	34.73	34.86	18.50	29.36
Creole	37.15	26.17	20.56	27.96
Thomas	37.61	23.99	18.28	26.62
Ferguson Yellow Dent	35.77	27.13	13.07	25.32
Surcropper	28.05	28.27	16.92	24.41
Chisholm	33.10	25.76	13.58	24.14
Virginia White Dent	26.66	25.64	14.61	22.30
Cocke's Prolific	30.34	23.41	12.49	22.08
St. Charles White	20.68	21.63	11.80	18.03
Average	32.33	27.50	17.19	.....

The average yields of all the varieties in 1919 were higher than they were in 1918, on account of the more favorable season. Hastings' Prolific, Florida Flint, and Creole, which made comparatively low yields in 1918, were among the best varieties in 1919.

The yield data secured in the variety-date test of corn in 1920 are given in Table 4. It will be noted that the average yields of all the varieties are much higher than they were in 1918 and 1919. These large yields are the results of an unusually favorable season for corn production.

Table 4.—Acre yield in bushels, variety-date test of corn in 1920.

Variety Name	Early Planting	Medium Planting	Late Planting	Average
Fentress Strawberry	53.31	47.91	42.41	47.87
Virginia White Dent	55.88	43.63	42.95	47.48
Ferguson Yellow Dent	52.33	49.13	38.44	46.63
Chisholm	50.44	44.60	35.46	43.50
Hastings' Prolific	46.27	37.26	46.85	43.46
Florida Flint	42.86	40.23	46.68	43.25
Surcropper	44.65	42.77	39.19	42.20
Cocke's Prolific	45.30	35.71	41.17	40.72
Thomas	44.72	40.04	36.56	40.44
Tuxpan	42.74	39.47	35.94	39.38
St. Charles White	34.39	25.98	27.12	29.16
Average	46.62	40.61	39 34	.....

In 1920 Virginia White Dent produced the highest yield in the early seeding, and the second highest average yield. Fentress Strawberry made the second highest yield in the first planting and the highest average yield. Ferguson Yellow Dent, Chisholm, and Hastings' Prolific follow in order of production.

SUMMARY OF THE VARIETY-DATE TEST OF CORN

Table 5 gives the average yields for all varieties during the three years, 1918, 1919, and 1920. Three of the varieties were not tested each year of the experiment. Creole was included in 1918 and 1919; Virginia White Dent in 1919 and 1920; while Fentress Strawberry was included in the test for the first time in 1920.

Table 5.—Acre yield in bushels of corn in the variety-date test, 1918-1920, inclusive.

Variety Name	Acre Yield Bushels			
	1918	1919	1920	Average
Surcropper	27.46	24.41	42.20	31.35
Ferguson Yellow Dent	17.71	25.32	46.63	29.88
Chisholm	20.39	24.14	43.50	29.34
Hastings' Prolific	10.60	32.79	43.46	28.95
Tuxpan	13.55	29.40	39.38	27.44
Florida Flint	9.31	29.36	43.25	27.30
Thomas	14.05	26.62	40.44	27.03
Fentress Strawberry	.....	.....	47.87	.....
Cocke's Prolific	8.40	22.08	40.72	23.73
Virginia White Dent	.....	22.30	47.48	.....
St. Charles White	9.98	18.03	29.16	19.05
Creole	8.85	27.96	.....	.....

Surcropper has made the best average yield to the acre for the three years, followed in order of yield by Ferguson Yellow Dent, Chisholm, Hastings' Prolific, Tuxpan, Florida Flint, and Thomas. While Surcropper has produced the most corn to the acre, it is not a particularly desirable type of corn, except in yield, for the conditions in this part of Texas. The quality of the grain of this variety is sometimes poor, probably due to the fact that the shuck, or husk, is short and does not extend well over the tip, and thus leaves the latter exposed. This defect permits the entrance of water, which is conducive to rotting and to the entrance of molds. Birds and insects more readily attack ears having this defect. Ferguson Yellow Dent also has a tendency to rot. Fentress Strawberry has been included in the test only one year, but it is probably one of the best varieties, as was stated in the discussion of the variety test at the beginning of this bulletin. Tuxpan and Thomas are good-yielding varieties and are desirable types of corn for the Gulf Coastal Plains of Texas.

Tuxpan corn is being improved by the ear-to-row method of corn breeding at Substation No. 3, Angleton, and it is available for distribution to the public. Thomas corn is being improved by Substation No. 1, Beeville, Texas, and it may be obtained there or at Substation No. 3, Angleton, Texas.

DESCRIPTION OF VARIETIES

A few of the varieties of corn best adapted to the conditions in this part of Texas are described briefly here. These descriptions apply to

the varieties when grown at Angleton, Texas. These same varieties when grown under entirely different conditions may behave differently from the way here described.

Fentress Strawberry. A variety with large ears and large stalks. Ear: length, averages about 7½ inches; diameter, about 2¼ inches. Cob, pink. Kernels, yellowish-white or yellow, with longitudinal red stripes; medium soft, dent. Shelling percentage, 75 to 78. Stalk: height, 6½ to 8½ feet; diameter, large. This variety does not have a tendency to produce many stalks with two or more ears. It matures medium early.

Surcropper. A variety with somewhat short, thick ears, having a length of 6 to 7 inches, and a diameter of about 2 inches. Cob, white. Kernels, large and coarse, white; medium soft, dent. Shelling percentage, 81 to 82. Stalk: height, 6 to 7½ feet; diameter, medium. Shuck does not extend well over tip of ear. This variety produces a considerable number of stalks with two or more ears in favorable seasons. A medium early variety.

Chisholm. A variety with short, thick ears and stalks of medium height. Ear: length, averages about 7 inches; diameter, 2 to 2¼ inches. Cob, red. Kernels, medium size, white; medium soft, dent. Shelling percentage, 81 to 82. Stalk: height, averages 6½ to 7 feet; diameter, medium. In favorable seasons this variety produces a considerable number of stalks with two or more ears. This variety is medium early in maturity.

Ferguson Yellow Dent. This variety has short ears with a large diameter. Ear: length, about 7 inches; diameter, about 2 inches. Cob, red. Kernels, yellow; soft, deeply dented. Shelling percentage, 82 to 84. Stalk: height, averages about 7 feet; diameter, medium. Medium early in maturity.

Hastings' Prolific. A variety of corn with small ears and tall stalks. Ear: length, 6 to 6½ inches; diameter, about 1¾ inches. Cob, white. Kernels, small, white; medium soft, dent. Shelling percentage, 82 to 87. Stalk: height, averages 7 to 9½ feet; diameter, medium. The shuck extends well over the tip of the ear. This is a typical variety of prolific corn. A medium early variety.

Tuxpan. This is a tall, rank-growing variety of corn. The ears are large and taper slightly from butt to tip. Ear: length, averages 7½ to 8 inches; diameter, about 1⅞ inches. Cob, white. Kernels, white; medium hard, dent. Shelling percentage, 78 to 82. Stalk: height, averages 8½ to 10½ feet; diameter, large. The shuck is thick and fits closely and extends well over the tip of the ear. This is a late-maturing variety, being about two weeks later than Thomas or Surcropper.

Thomas. A variety with a stalk of medium height. Ear: length, averages 6 to 7 inches; diameter, about 1¾ inches. Cob, small, white. Kernels, white; medium soft, dent. Shelling percentage, averages about 85. Stalk: height, 6 to 8½ feet; diameter, medium. The shuck extends well over the tip of the ear. This is a medium early variety.

Table 6 presents the average yields of each date of planting for the

three years. The yield of the early, of the medium, and of the late planting is the average of the yields of the eleven varieties planted at the early, medium, and late dates, respectively.

Table 6.—Average yield of early, medium, and late planting of corn in the variety-date test of corn, 1918-1920.

Time of Planting	Acre Yield Bushels Shelled Corn			
	1918	1919	1920	Average
Early	16.91	32.33	46.62	31.95
Medium	11.16	27.50	40.61	26.42
Late	13.60	17.19	39.34	23.37

It will be noted from Table 6 that the best yields were obtained from the early seeding every year, and that the average yields decreased when the plantings were made at later dates. In 1918, however, the medium planting produced the lowest yield.

These results indicate that the most favorable date of planting corn in this section of Texas is about the first of March.

APPENDIX.

A list of the varieties which were included in the variety tests of corn at Substation No. 3, Angleton, Texas, by years, is given here.

The name of each variety is preceded by its individual Texas Station Accession Number. This is a reference number given to each lot of seed received for testing and serves to identify it throughout its use, as well as to show its source, pedigree, and performance record.

CORN VARIETIES

1913

T. S. No.		T. S. No.		T. S. No.	
393	Bloody Butcher.	69	Mexican Tuxpan.	173	Squaw.
353	Blount's Prolific.	321	Mexican June.	313	St. Charles White.
320	Boone County.	391	Mexican June.	143	Surcropper.
319	Chisholm.	372	Mortgage Lifter.	317	Surcropper.
373	Clark's Early Mastodon Dent.	314	Mosby's Prolific.	27	Texseed Giant White.
		32	Munson.	327	Thomas.
354	Cocke's Prolific.	146	Munson.	29	U. S. Selection 128.
350	Collier's Excelsior.	30	Oklahoma White Wonder.	351	Virginia White Dent.
371	Fentress Strawberry.			323	White June.
326	Florida Flint.	33	Singleton Strawberry.	315	Wisconsin White Dent.
68	Hastings' Prolific.	355	Snowflake.	316	Yellow Creole.
322	Hastings' Prolific.	142	Southern Beauty.		
390	Improved White Wonder.	318	Special Surcropper.		

CORN VARIETIES

1914

T. S. No.		T. S. No.		T. S. No.	
1005	Anderson's Yellow Dent.	1016	Eureka.	1007	New Rockdale.
908	Ardmore.	1011	Ex. Early White Dent.	927	Oklahoma White Wonder.
1014	Bigg's Seven Ear.	1009	Ex. Early Dent.	910	Roger's White Dent.
917	Blount's Prolific.	929	Fentress Strawberry.	1020	Silvermine.
935	Blue Grain.	923	Ferguson Yellow Dent.	920	Snowflake.
916	Boone County.	1013	Florida Flint.	915	St. Charles White.
1017	Casey's Pure Bred.	1002	Gold Standard.	922	Surcropper.
1021	Champion White Pearl.	943	Hearn's White.	926	Texseed Giant White.
909	Chappell's Prolific.	1008	Hickory King.	1006	Texas Giant Strawberry.
925	Chisholm.	1010	Improved Golden Dent.		
919	Cocke's Prolific.	1167	Improved Leaming.	928	Thomas.
921	Collier's Excelsior	1003	Improved Munson.	907	U. S. Selection 77.
1018	Columbian Beauty.	912	Laguna-Selection 136.	911	U. S. Selection 159.
913	Creole.	1012	Large Mexican June.	918	Virginia White Dent.
1004	Early Wonder.	1019	Marlboro Prolific.	1015	White Majestic.
930	Early Mastodon Dent.	932	Mosby's Prolific.	914	Wisconsin White Dent.
		931	Mortgage Lifter.		

CORN VARIETIES

1916

T. S. No.		T. S. No.		T. S. No.	
1775	Bigg's Seven Ear.	1328	Givens.	1773	Mosby's Prolific.
1711	Blount's Prolific.	1318	Gorham Yellow Dent.	1784	Munson.
1291	Brazos White.	1228	Hastings' Prolific.	1316	Oklahoma Yellow Dent.
1305	Chisholm.	1780	Hastings' Prolific.		
1778	Chisholm.	1986	Haupt's Golden Yellow Dent.	1782	Rockdale.
1710	Cocke's Prolific.			1774	St. Charles White.
1233	Creole.	1988	Henry Grady.	1283	Surcropper.
1799	Davis Prolific.	1714	Improved Golden Dent.	1284	Surcropper.
1987	Experiment Station Yellow.	1713	Improved Shoe Peg.	1285	Surcropper.
		1783	Improved Squaw.	1777	Surcropper.
1779	Fentress Strawberry.	1289	June Corn.	1330	Tankersley.
1776	Ferguson Yellow Dent.	1311	King's Earliest.	1983	Thomas.
		1312	Leaming.	1712	Virginia White Dent.
1781	Florida Flint.	1326	Leaming Strawberry.		

CORN VARIETIES

1917

T. S. No.		T. S. No.		T. S. No.	
1775	Bigg's Seven Ear.	2419	Ferguson Yellow Dent.	2444	Schieberle White.
2433	Blount's Prolific			1713	Shoe Peg.
935	Blue Grain.	2580	Given's Red Cob.	2425	Shoe Peg.
2434	Boone County White	2428	Golden Dent.	2435	Snowflake.
2577	Brazos White	2430	Gorham's Yellow Dent.	2424	St. Charles White.
2578	Casey's Pure Bred.	2436	Hastings' Prolific.	2445	Strawberry.
2418	Chisholm.	2442	Henry Grady.	1777	Surcropper.
2421	Chisholm.	1783	Improved Indian Squaw.	2420	Surcropper.
2575	Clemen's Yellow.			327	Thomas.
2431	Cocke's Prolific.	2441	Improved Indian Squaw.	1983	Thomas.
2422	Creole Flint.			2573	Tuxpan.
2423	Davis Prolific.	2571	Improved Leaming.	2432	Virginia White Dent.
2443	Experiment Station Yellow.	2427	Mosby's Prolific.	2572	White Mogul.
		2440	Munson.	2576	White Mogul.
1779	Fentress Strawberry.	2439	Oklahoma White Wonder.		
2426	Fentress Strawberry.				

CORN VARIETIES

1918

T. S. No.		T. S. No.		T. S. No.	
1092	Anderson's Yellow Dent.	2950	Foster.	1971	Old Glory.
1775	Bigg's Seven Ear.	3011	Giant White Red Cob.	2397	Redden Improved.
1966	Bloody Butcher.	2790	Giant Yellow.	2939	Red Dent.
2433	Blount's Prolific.	2963	Goldmine.	2437	Rockdale.
935	Blue Grain.	2430	Gorham's Yellow Dent.	2444	Schieberle.
2577	Brazos White.	2947	Greer.	2960	Scott's White.
3053	Chisholm.	1958	Halbert's Hybrid.	2425	Shoe Peg.
3042	Clark's Yellow Dent.	2436	Hastings' Prolific.	3051	Silvermine.
2431	Cocke's Prolific.	2441	Improved Indian Squaw.	2958	Steele.
1967	Cole's Prolific.	1960	Large Prolific.	2424	St. Charles White.
3143	Commercial White.	2571	Leaming.	2426	Strawberry.
3013	Cowan's Yellow Dent.	2954	Leslie White.	2420	Surcropper.
2422	Creole.	3043	Local June.	2313	Texas Progress.
1961	Dan Patch.	1975	McCollough Yellow.	327	Thomas.
2423	Davis Prolific.	1965	McGalliard.	2944	Tuxpan.
2443	Experiment Station Yellow.	2427	Mosby's Prolific.	2432	Virginia White Dent.
3144	Ferguson Yellow Dent.	2440	Munson	2943	White Mogul.
1781	Florida Flint.	3012	Nicholson's Bloody Butcher.	2946	Williamson County White.
		2439	Oklahoma White Wonder.		

CORN VARIETIES

1919

T. S. No.		T. S. No.		T. S. No.	
3610	Chisholm.	3734	Florida Flint.	327	Thomas.
3613	Cocke's Prolific.	3604	Hastings' Prolific.	2573	Tuxpan.
3733	Creole.	3605	St. Charles White.	3615	Virginia White Dent.
3609	Ferguson Yellow Dent.	3611	Surcropper.		

CORN VARIETIES

1920

T. S. No.		T. S. No.		T. S. No.	
4169	Chisholm.	4173	Florida Flint.	327	Thomas.
4194	Cocke's Prolific.	4175	Hasting's Prolific.	2574	Tuxpan.
4171	Fentress Strawberry.	4177	St. Charles White.	4195	Virginia White Dent.
4172	Ferguson Yellow Dent.	4178	Surcropper.		

RAINFALL DATA.

Table 7 gives the rainfall in inches at Angleton, Texas, by months from 1914 to 1920, inclusive.

Table 7.—Rainfall at Angleton, Texas, from 1914 to 1920, inclusive.

Month	1914	1915	1916	1917	1918	1919	1920	Average
January	0.49	2.96	1.62	2.34	0.27	6.20	6.02	2.842
February	3.16	4.03	0.13	2.98	0.85	2.59	1.85	2.227
March	2.93	3.53	0.42	0.75	2.30	9.21	1.36	2.928
April	13.46	2.25	1.64	2.37	5.65	1.35	.54	3.894
May	7.89	2.66	6.59	6.04	1.68	5.27	3.64	4.824
June	0.26	0.00	5.37	0.44	1.41	16.57	5.83	4.268
July	1.73	3.95	5.66	3.12	2.48	6.55	4.76	4.035
August	8.49	13.87	5.43	1.66	3.51	5.42	9.10	6.782
September	4.34	6.29	3.55	1.15	2.87	3.62	2.49	3.472
October	3.61	2.49	1.08	0.49	5.67	5.93	6.81	3.725
November	8.02	2.04	1.68	0.84	6.91	2.30	3.83	3.660
December	4.19	4.74	2.13	0.56	3.93	1.78	3.05	2.911
Total	58.57	48.81	35.30	22.74	37.53	66.79	49.28	45.57